

### REMARKS

Applicant appreciates the time taken by the Examiner to review Applicant's present application. Applicant has cancelled Claims 1-6 and added Claims 7-17. Applicant submits that no new matter has been added by these amendments. Thus, Claims 7-17 remain pending in this application. This application has been carefully reviewed in light of the Official Action mailed December 28, 2004. Applicant respectfully requests reconsideration and favorable action in this case.

#### Rejections under 35 U.S.C. § 102

Claims 1-6 stand rejected as anticipated by U.S. Patent No.5,596,601 ("Bar-David"), U.S. Patent No.6,473,449 B1 ("Cafarella") or U.S. Patent No.6,473,449 ("Dayton"). Applicant has cancelled Claims 1-6. Accordingly, Applicant respectfully submits that these rejections are now moot.

#### Newly Added Claims 7-17

Applicant has added new Claims 7-17. Applicant respectfully submits that no new matter has been added by these amendments.

Newly added Claim 9 recites generating a pulse signal, generating an impulse train from the pulse signal, wherein generating the impulse train comprises convoluting the pulse signal with a set of code sequence elements, each of the set of code sequence elements having a timing component and an amplitude component corresponding to the timing component and transmitting the impulse train. Thus, embodiments of the invention provide improved pulse rates by generating an impulse train from a pulse signal by convoluting the pulse signal using the set of code sequence elements. Each of the set of code sequence elements has a timing component and a corresponding amplitude component. This convolution process delays and scales the pulse signal to the timing and amplitude component of each of the set of code sequence elements.

Similarly, newly added Claim 13 recites generating a receiving template signal, wherein generating the receiving template signal comprises convoluting a template signal with a set of code sequence elements, each of the set of code sequence elements having a timing component and an amplitude component corresponding to the timing component and

correlating the receiving template signal with a received pulse signal. Thus, embodiments of the invention may provide improved pulse rates by generating a receiving template signal by convoluting a template signal using a replica of the set of code sequence elements used by a transmitter to encode a transmitted pulse train. Each of the set of code sequence elements has a timing component and a corresponding amplitude component. This convolution process delays and scales the template signal to the timing and amplitude component of each of the set of code sequence elements. This receiving template signal can then be correlated against a received signal which may include the transmitted pulse train in order to produce a detected signal. Other newly added Claims 7, 8, 10-12 and 14-17 recite similar limitations.

Bar-David, in contrast, discloses a system and method for conveying more than one bit of information per symbol duration by modulating the position of the center of the transmitted spread spectrum codeword within the symbol duration. (See Bar-David Col. 1, Line 65 - Col 2, Line 6)

Cafarella discloses an apparatus and method for communicating data between two devices. Cafarella, however, employs a Walsh-function waveform set that includes a plurality of mutually orthogonal binary waveforms which are synchronously modulated on a spread spectrum code. (See, Cafarella Col. 7, Lines 55-60)

Dayton discloses a communication system which is organized such that the information to be communicated is in pulse form. However, these pulses are of substantially constant amplitude and are encoded according to a prearranged scheme and transmitted on different frequencies using a rate and a delay. These frequency modulated pulses are received at a receiver which utilizes the frequency on which the pulse was transmitted, the rate and the time delay to reconstruct the original stream of pulses. (See Dayton Col. 2, Line 59 – Col. 3, Line 8, Col. 6, Lines 16-22, Claim 1)

After reviewing the portions of Bar-David, Cafarella and Dayton cited by the Examiner Applicant cannot find where these references disclose generating an impulse train by convoluting the pulse signal with a set of code sequence elements, each of the set of code sequence elements having a timing component and an amplitude component corresponding to the timing component and transmitting the impulse train as recited by Claim 9, or where the Bar-David, Cafarella or Dayton references teach generating a receiving template signal by convoluting a template signal with a set of code sequence elements, each of the set of code sequence elements having a timing component and an amplitude component corresponding to

the timing component and correlating the receiving template signal with a received pulse signal as recited by Claim 13. Accordingly, Applicant requests the full allowance of Claims 9 and 13. Additionally, as Claims 7, 8, 10-12 and 14-17 recite similar limitations to Claim 9 or 13, Applicant respectfully requests the allowance of Claims 7, 8, 10-12 and 14-17 as well.

CONCLUSION

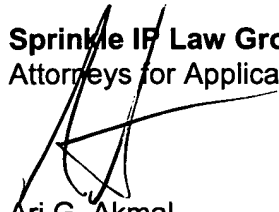
Applicant has now made an earnest attempt to place this case in condition for allowance. Other than as explicitly set forth above, this reply does not include acquiescence to statements, assertions, assumptions, conclusions, or any combination thereof in the Office Action. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests full allowance of Claims 7-17. The Examiner is invited to telephone the undersigned at the number listed below for prompt action in the event any issues remain.

An extension of 1 month is requested and a Notification of Extension of Time Under 37 C.F.R. § 1.136 with the appropriate fee is enclosed herewith.

The Director of the U.S. Patent and Trademark Office is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 50-3183 of Sprinkle IP Law Group.

Respectfully submitted,

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Date: April 27, 2005

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